



SUGHRUE MION, PLLC

December 5, 2001

www.sughrue.com

000000000000 05 DEC 2001  
 2100 Pennsylvania Avenue, NW  
 Washington, DC 20037-3213  
 T 202.293.7060  
 F 202.293.7860

**BOX PCT**

Commissioner for Patents  
 Washington, D.C. 20231

PCT/FR00/01535  
 -filed June 5, 2000

Re: Application of Ludovic PETIT  
 AN IMPROVED DISPENSER HEAD AND A FLUID DISPENSER DEVICE INCLUDING SUCH A HEAD  
**Assignee: VALOIS S.A.**  
 Our Ref: Q67463

Dear Sir:

The following documents and fees are submitted herewith in connection with the above application for the purpose of entering the National stage under 35 U.S.C. § 371 and in accordance with Chapter II of the Patent Cooperation Treaty:

- ☒ an executed Declaration and Power of Attorney.
- ☒ an English translation of the International Application.
- ☒ three (3) sheets of drawings.
- ☒ an English translation of Article 34 amendments.
- ☒ an executed Assignment and PTO 1595 form.
- ☒ a Preliminary Amendment

It is assumed that copies of the International Application, the International Search Report, the International Preliminary Examination Report, and any Articles 19 and 34 amendments as required by § 371(c) will be supplied directly by the International Bureau, but if further copies are needed, the undersigned can easily provide them upon request.

The Government filing fee is calculated as follows:

Total claims	12	-	20	=		x	\$18.00	=	\$0.00
Independent claims	1	-	3	=		x	\$84.00	=	\$0.00
Base Fee									\$890.00

**TOTAL FILING FEE**

\$890.00

**Recordation of Assignment**

\$40.00

**TOTAL FEE**

\$930.00

Checks for the statutory filing fee of \$890.00 and Assignment recordation fee of \$40.00 are attached. You are also directed and authorized to charge or credit any difference or overpayment to Deposit Account No. 19-4880. The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16, 1.17 and 1.492 which may be required during the entire pendency of the application to Deposit Account No. 19-4880. A duplicate copy of this transmittal letter is attached.

Priority is claimed from:

CountryApplication NoFiling Date

France

99 07311

June 10, 1999

Respectfully submitted,

Robert J. Seas, Jr.  
 Registration No. 21,092

RJS/amt

PATENT APPLICATION #3/A

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

Ludovic PETIT

Appln. No.: PCT/FR00/01535

Confirmation No.: Not Yet Assigned

Group Art Unit: Not Yet Assigned

Filed: December 05, 2001

Examiner: Not Yet Assigned

For: AN IMPROVED DISPENSER HEAD AND A FLUID DISPENSER DEVICE  
INCLUDING SUCH A HEAD

**PRELIMINARY AMENDMENT**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Prior to examination, please amend the above-identified application as follows:

**IN THE CLAIMS:**

**Please enter the following amended claims:**

3/ A head according to claim 1, in which the outer body (20) is a push fit on the inner body (10).

4/ A head according to claim 1, in the form of a pusher for a nasal applicator, the pusher comprising a frustoconical elongate portion (15, 25) designed to penetrate in part into the nostril, and a wider portion (21) forming the actuating surface.

9/ A head according to claim 1, in which the inner body (10) is provided with fixing means (18), such as snap-fastening means, for fixing to said dispenser device.

Preliminary Amendment  
Attorney Docket No. Q67463

10/ A fluid dispenser device comprising a fluid reservoir (1), and a dispenser member (2) such as a pump, said fluid dispenser device being characterized in that it further comprises a dispenser head according to claim 1.

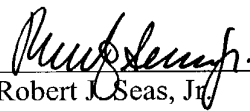
12/ A fluid dispenser device according to claim 10, in which said inner body (10) of the head is provided with closure means (40) at the dispensing orifice (12).

**REMARKS**

Entry and consideration of this Amendment is respectfully requested.

Respectfully submitted,

SUGHRUE MION, PLLC  
2100 Pennsylvania Avenue, N.W.  
Washington, D.C. 20037-3213  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860  
RJS/amt  
Date: December 5, 2001

  
Robert J. Seas, Jr.  
Registration No. 21,092

Preliminary Amendment  
Attorney Docket No. Q67463

**APPENDIX**

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE CLAIMS:**

**The claims are amended as follows:**

3/ A head according to claim 1-~~or~~2, in which the outer body (20) is a push fit on the inner body (10).

4/ A head according to ~~any preceding claim~~ 1, in the form of a pusher for a nasal applicator, the pusher comprising a frustoconical elongate portion (15, 25) designed to penetrate in part into the nostril, and a wider portion (21) forming the actuating surface.

9/ A head according to ~~any preceding claim~~ 1, in which the inner body (10) is provided with fixing means (18), such as snap-fastening means, for fixing to said dispenser device.

10/ A fluid dispenser device comprising a fluid reservoir (1), and a dispenser member (2) such as a pump, said fluid dispenser device being characterized in that it further comprises a dispenser head according to ~~any one of claims 1 to 9~~.

12/ A fluid dispenser device according to claim 10-~~or~~11, in which said inner body (10) of the head is provided with closure means (40) at the dispensing orifice (12).

AN IMPROVED DISPENSER HEAD AND A FLUID DISPENSER DEVICE  
INCLUDING SUCH A HEAD

5 The present invention relates to an improved  
dispenser head and to a fluid dispenser device including  
such a head.

10 Fluid dispenser devices are well known, and such a  
device generally comprises a reservoir, a dispenser  
member, such as a pump or a valve, mounted on said  
reservoir, and a dispenser device making it possible to  
actuate the pump and thus to dispense the fluid contained  
in the reservoir. The head is generally fixed to the  
moving actuating rod for actuating the pump, and it  
defines an expulsion channel leading to a dispensing  
orifice making it possible to dispense the fluid.

15 Known dispenser heads can suffer from certain  
disadvantages. In the event that the pusher is removed  
or torn off accidentally or improperly from its position  
as mounted on the pump, the fluid contained in the pump  
or in the reservoir might become contaminated.  
20 Furthermore, since the pusher is the last part of the  
fluid dispenser device to be assembled, it is desirable  
to make the last assembly step as simple as possible.  
The manufacturer of the fluid to be dispensed is  
generally not the manufacturer of the dispenser device,  
25 so that, after the reservoir has been filled, it is  
necessary firstly to mount the pump on the reservoir, and  
then to mount the dispenser head on the pump. Therefore,  
the pump and the dispenser head are generally delivered  
separately, and assembled on the site of the manufacturer  
30 of the fluid. In which case, it can be difficult to  
avoid all risk of contamination while the head is being  
assembled on the pump, and that assembly requires  
complicated tools.

35 Another problem that can arise with dispenser heads,  
in particular dispenser heads of the nasal applicator  
type, concerns manufacture and assembly of the dispenser  
head itself. In particular in spray uses, it is

generally necessary to form a spray profile at the dispensing orifice. Unfortunately, in particular in devices of the nasal applicator type, the end of the head provided with the dispensing orifice is relatively remote  
5 from the injection point of the mold, which makes it difficult to form the spray profile and to achieve accuracy in forming it.

Similarly, it can be desirable to avoid any risk of the dispenser head being removed, to prevent the user from attempting various undesired operations, such as refilling the reservoir, for example.

Furthermore, in particular when the dispenser head is used as the pusher of a nasal applicator, it is important for it to be possible to clean the dispenser head, without however any risk of polluting the working portion of the pump, and in particular the fluid contained therein.

Documents DE-14 91 714, US-4 830 224, and DE-41 10 304 disclose dispenser heads or pushers made up from more than one piece, but none of them makes it possible to prevent the piece incorporating the dispensing orifice from being torn off, so that the fluid is contaminated if any attempt is made to tear off the pusher.

25           An object of the present invention is to provide a dispenser head and a fluid dispenser device incorporating such a dispenser head that do not reproduce the above-mentioned drawbacks.

In particular, an object of the present invention is  
30 to provide a dispenser head that prevents any risk of  
contaminating the fluid.

Another object of the present invention is to provide such a dispenser head that is simple and inexpensive to manufacture and to assemble.

35 Yet another object of the present invention is to provide such a dispenser head for which the final stage of assembly of the fluid dispenser device is simplified,

in particular when the manufacturer of the fluid to be dispensed is different from the manufacturer of the dispenser device.

Yet another object of the present invention is to  
5 provide a dispenser head that prevents said head from  
being torn off or removed from the dispenser device after  
it has been assembled.

Another object of the present invention is to provide such a dispenser head that is easy to clean without affecting the working portion of the pump in any way.

The present invention thus provides a dispenser head for a fluid dispenser device for dispensing a fluid, said dispenser head comprising an inner body defining a dispensing channel for the fluid, said channel being terminated by a dispensing orifice, and a separate outer body defining an actuating surface on which the user presses to actuate the dispenser device, said outer body being fitted over said inner body in a manner such that, in the event that an attempt is made to tear off or to remove said dispenser head, only said outer body is removable, said inner body remaining fixed to said dispenser device.

Advantageously, the inner body has an outside radial  
25 shoulder co-operating with a corresponding inside radial  
shoulder of the outer body to define the assembled  
position of the head.

Advantageously, the outer body is a push fit on the inner body.

30 In an advantageous variant embodiment, the head is in the form of a pusher for a nasal applicator, the pusher comprising a frustoconical elongate portion designed to penetrate in part into the nostril, and a wider portion forming the actuating surface.

35           In a first embodiment, the outer body incorporates  
the frustoconical portion and the wider portion.





Figure 3 is a view similar to the Figure 2 view, showing a variant embodiment of the invention; and

Figure 4 is a diagrammatic section view of another variant embodiment of the present invention.

5 All of the embodiments shown in the figures more particularly concern dispenser heads of the nasal applicator pusher type. Naturally, the present invention is not limited to this particular type of dispenser head.

Figures 1 and 2 show an embodiment of the dispenser head of the present invention respectively in the non-assembled position and in the assembled position, the dispenser head co-operating with a pump 2 mounted on a reservoir 1 to form a fluid dispenser device. The reservoir and the pump may be of any type, and, in place of a pump, it is equally possible to use a valve, such as a metering valve. The particular components of the dispenser head are therefore not described any more fully below.

The dispenser head of the invention includes an inner body 10 defining a dispensing channel 11 for the fluid. In the example shown in Figure 1, said inner body 10 is connected to the actuating rod of the pump, preferably in leaktight manner. The expulsion channel 11 is terminated by a dispensing orifice 12 which is thus part of the inner body 10. As shown in Figure 1, the inner body 10 may be pre-assembled on the pump 2, in particular on the site of the manufacturer of said pump. The head further includes an outer body 20 which defines an actuating surface 21, which, in the examples shown in the drawings, is a finger-receiving press zone on which the user presses to actuate the dispenser device. The outer body 20 is fitted over the inner body 10 as shown in Figure 2, preferably as a push fit, so that, if an attempt is made to tear off said dispenser head, only said outer body 20 is removable, while the inner body 10 remains fixed to said dispenser device, which, in this example, is the pump 2.

Preferably, the inner body 10 is provided with an outside radial shoulder 19 which co-operates with a corresponding inside radial shoulder 29 in the outer body 20 to define an assembled position for the head, as shown in Figures 2 and 3.

Figure 3 shows a variant in which the inner body 10 incorporates the frustoconical portion 15 while the outer body 20 incorporates the wider portion 21 forming the actuating zone. In this example, in addition to including the hollow tubular member 13, the inner body 10 also includes a frustoconical skirt 15 which extends around said tubular member 13 to form said frustoconical portion. Advantageously, the free end of said skirt 15, i.e. the bottom end in the drawings, is provided firstly with the radial shoulder 19 which co-operates with the





## CLAIMS

1/ A dispenser head for a fluid dispenser device for dispensing a fluid, said dispenser head being characterized in that it comprises an inner body (10) defining a dispensing channel (11) for the fluid, said channel (11) being terminated by a dispensing orifice (12), and a separate outer body (20) defining an actuating surface (21) on which the user presses to actuate the dispenser device, said inner body (10) incorporating said dispensing orifice (12) being fixed in non-removable manner to said dispenser device and said outer body (20) being fitted over said inner body (10) in removable manner such that, in the event that an attempt is made to tear off or to remove said dispenser head, only said outer body (20) is removable, said inner body (20) remaining fixed to said dispenser device.

2/ A head according to claim 1, in which the inner body (10) has an outside radial shoulder (19) co-operating with a corresponding inside radial shoulder (29) of the outer body (20) to define the assembled position of the head.

3/ A head according to claim 1 or 2, in which the outer body (20) is a push fit on the inner body (10).

4/ A head according to any preceding claim, in the form of a pusher for a nasal applicator, the pusher comprising a frustoconical elongate portion (15, 25) designed to penetrate in part into the nostril, and a wider portion (21) forming the actuating surface.

5/ A head according to claim 4, in which the outer body (20) incorporates the frustoconical portion (25) and the wider portion (21).

## CORRECTED SHEET

This translation of an amended page covers the amendments made in the original. However, the page breaks match the translation, so that this page is also a replacement page that fits in with the remainder of the translation.

3/p<sup>1</sup> 10

6/ A head according to claim 4, in which the inner body (10) incorporates the frustoconical portion (15), and the outer body (20) incorporates the wider portion (21).

5 7/ A head according to claim 6, in which the inner body (10) comprises a hollow tubular member (13), and a frustoconical skirt (15) extending around said tubular member (13) to form said frustoconical portion, the free end of said skirt (15) incorporating a radial shoulder  
10 (19) for co-operating with the outer body (20).

8/ A head according to claim 7, in which the free end of said frustoconical skirt (15) is provided with a sharp edge (17) at its axial end surface.  
15

9/ A head according to any preceding claim, in which the inner body (10) is provided with fixing means (18), such as snap-fastening means, for fixing to said dispenser device.  
20

10/ A fluid dispenser device comprising a fluid reservoir (1), and a dispenser member (2) such as a pump, said fluid dispenser device being characterized in that it further comprises a dispenser head according to any one  
25 of claims 1 to 9.

11/ A fluid dispenser device according to claim 10, in which said inner body (10) of the head is snap-fastened to the actuating rod (3) of the pump (2) so that, in the event that an attempt is made to tear off or remove the  
30 head, the inner body (10), together with the closure means (40), remains fixed to said pump (2), thereby preventing any contamination of the fluid contained in the reservoir (1).

12/ A fluid dispenser device according to claim 10 or 11, in which said inner body (10) of the head is provided with closure means (40) at the dispensing orifice (12).  
35

## CORRECTED SHEET

This translation of an amended page covers the amendments made in the original. However, the page breaks match the translation, so that this page is also a replacement page that fits in with the remainder of the translation.

## A B S T R A C T

AN IMPROVED DISPENSER HEAD AND A FLUID DISPENSER DEVICE  
INCLUDING SUCH A HEAD

5

A dispenser head for a dispenser device for  
dispensing a fluid, said dispenser head being  
characterized in that it comprises an inner body (10)  
defining a dispensing channel (11) for the fluid, said  
10 channel (11) being terminated by a dispensing orifice  
(12), and a separate outer body (20) defining an  
actuating surface (21) on which the user presses to  
actuate the dispenser device, said outer body (20) being  
fitted over said inner body (10) in a manner such that,  
15 in the event that an attempt is made to tear off or to  
remove said dispenser head, only said outer body (20) is  
removable, said inner body (20) remaining fixed to said  
dispenser device.

20

25

30

Translation of the title and the abstract as they were when originally filed by the  
35 Applicant. No account has been taken of any changes that may have been made  
subsequently by the PCT Authorities acting ex officio, e.g. under PCT Rules 37.2,  
38.2, and/or 48.3.

1/3

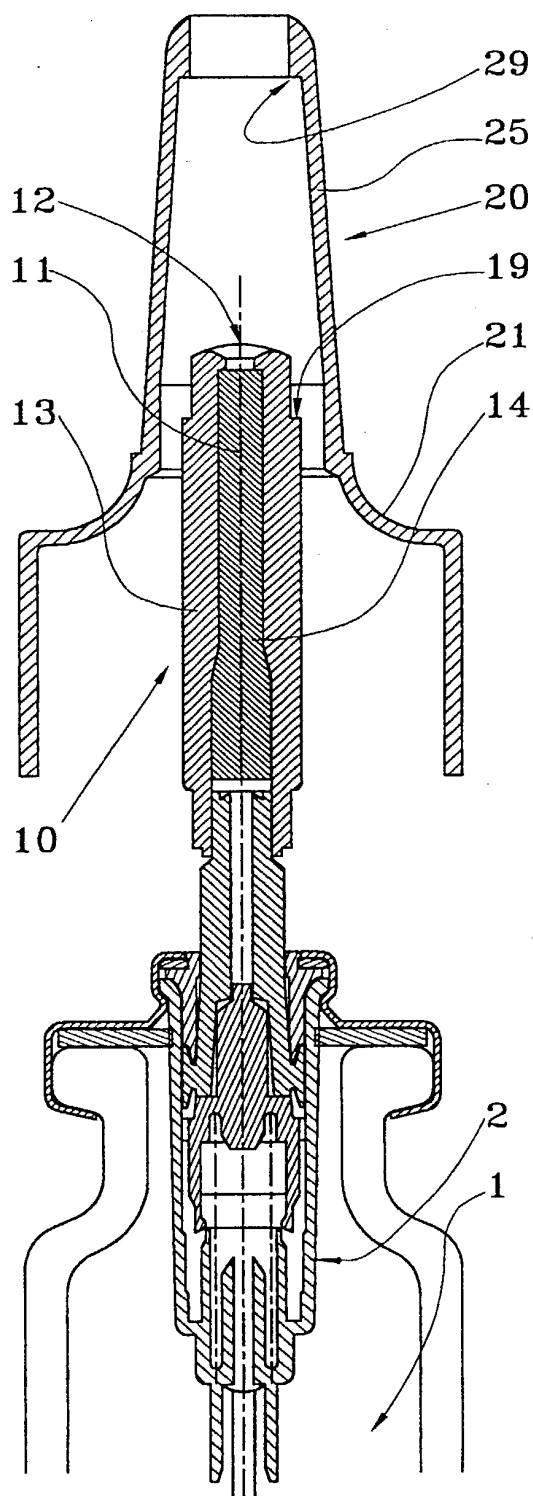


FIG.1

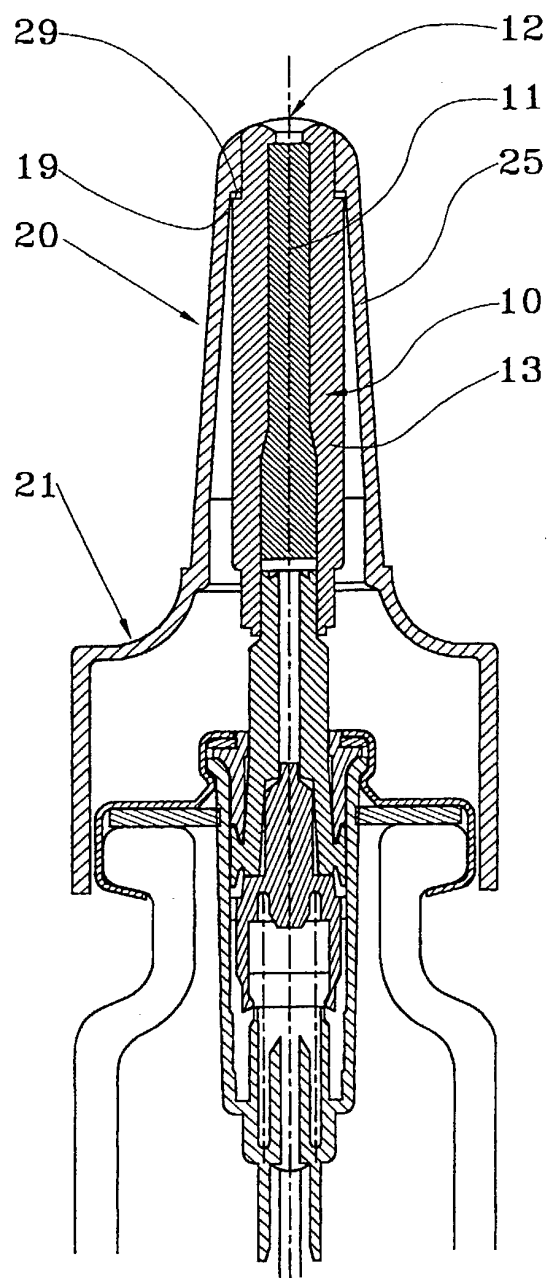


FIG.2



2/3

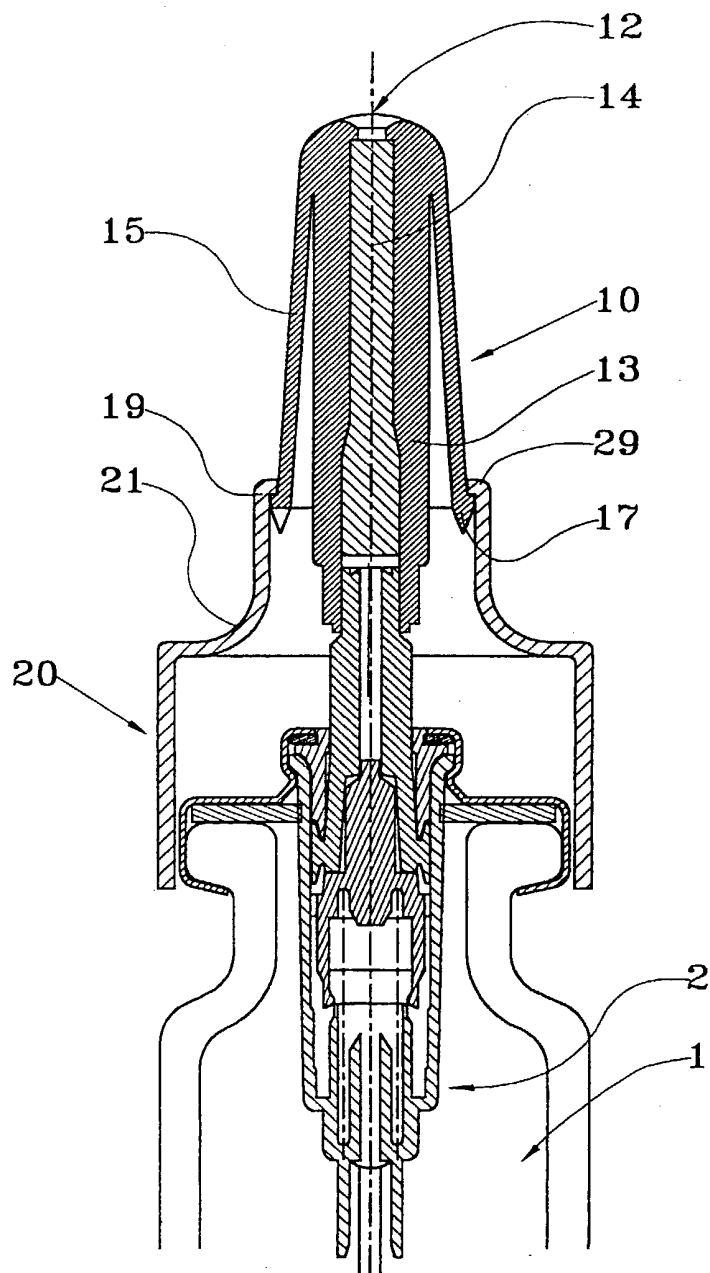


FIG.3

3/3

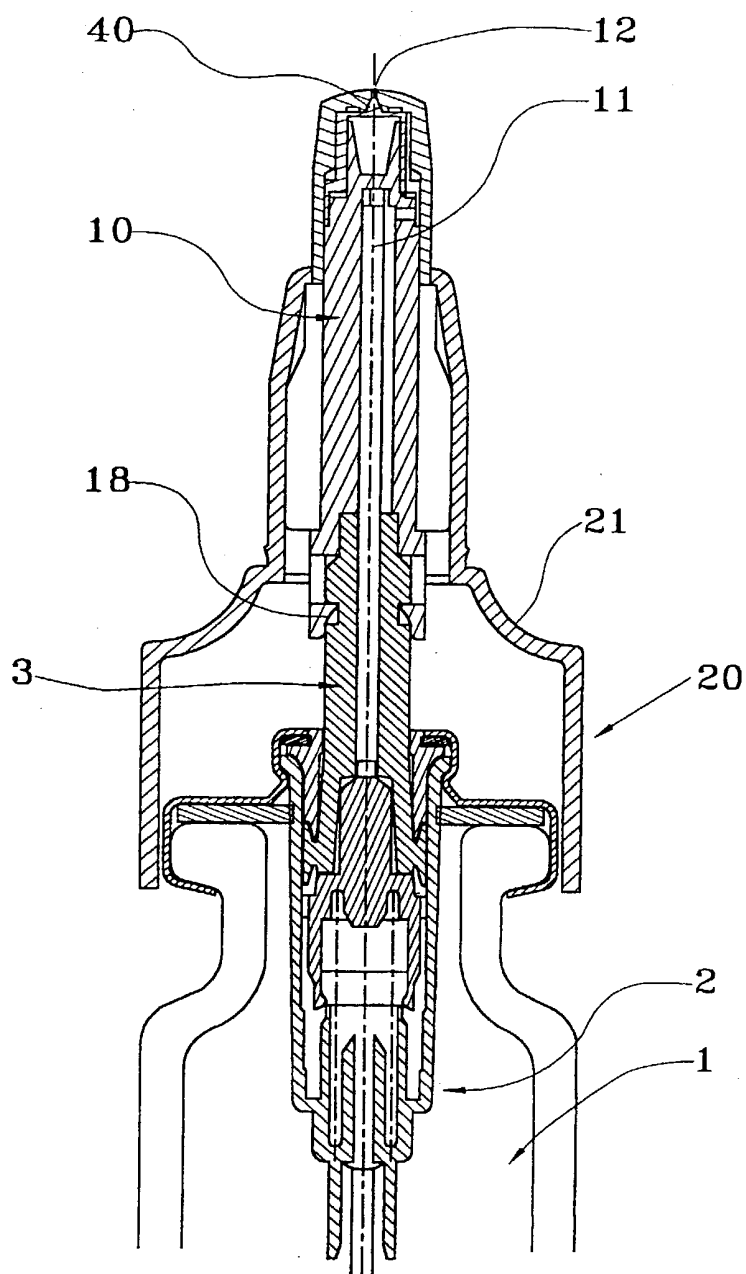


FIG. 4

# Declaration and Power of Attorney for Patent Application

## Déclaration et Pouvoirs pour Demande de Brevet

### French Language Declaration

En tant que l'inventeur nommé ci-après, je déclare par le présent acte que:

As a below named inventor, I hereby declare that:

Mon domicile, mon adresse postale et ma nationalité sont ceux figurant ci-dessous à côté de mon nom.

My residence, post office address and citizenship are as stated next to my name.

Je crois être le premier inventeur original et unique (si un seul nom est mentionné ci-dessous), ou l'un des premiers co-inventeurs originaux (si plusieurs noms sont mentionnés ci-dessous) de l'objet revendiqué, pour lequel une demande de brevet a été déposée concernant l'invention intitulée

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

AN IMPROVED DISPENSER HEAD

AND A FLUID DISPENSER DEVICE

INCLUDING SUCH A HEAD

et dont la description est fournie ci-joint à moins que la case suivante n'ait été cochée:

the specification of which is attached hereto unless the following box is checked:

☒ a été déposée le \_\_\_\_\_  
sous le numéro de demande des Etats-Unis ou le numéro  
de demande international PCT  
\_\_\_\_\_ et modifiée le  
\_\_\_\_\_ (le cas échéant).

\_\_\_\_\_ was filed on June 5, 2000  
as United States Application Number or PCT  
International Application Number  
PCT/FR00/01535 and was amended on  
May 7, 2001 (if applicable).

Je déclare par le présent acte avoir passé en revue et compris le contenu de la description ci-dessus, revendications comprises, telles que modifiées par toute modification dont il aura été fait référence ci-dessus.

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

Je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

## French Language Declaration

Je revendique par le présent acte avoir la priorité étrangère, en vertu du Titre 35, § 119(a)-(d) ou § 365(b) du Code des Etats-Unis, sur toute demande étrangère de brevet ou certificat d'inventeur ou, en vertu du Titre 35, § 365(a) du même Code, sur toute demande internationale PCT désignant au moins un pays autre que les Etats-Unis et figurant ci-dessous et, en cochant la case, j'ai aussi indiqué ci-dessous toute demande étrangère de brevet, tout certificat d'inventeur ou toute demande internationale PCT ayant une date de dépôt précédant celle de la demande à propos de laquelle une priorité est revendiquée.

Prior foreign application(s)  
Demande(s) de brevet antérieure(s)

99 07311 FR  
(Number) (Country)  
(Numéro) (Pays)

(Number) (Country)  
(Numéro) (Pays)

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 119(e) du Code des Etats-Unis, de toute demande de brevet provisoire effectuée aux Etats-Unis et figurant ci-dessous.

(Application No.) (Filing Date)  
(N° de demande) (Date de dépôt)

(Application No.) (Filing Date)  
(N° de demande) (Date de dépôt)

Je revendique par le présent acte tout bénéfice, en vertu du Titre 35, § 120 du Code des Etats-Unis, de toute demande de brevet effectuée aux Etats-Unis, ou en vertu du Titre 35, § 365(c) du même Code, de toute demande internationale PCT désignant les Etats-Unis et figurant ci-dessous et, dans la mesure où l'objet de chacune des revendications de cette demande de brevet n'est pas divulgué dans la demande antérieure américaine ou internationale PCT, en vertu des dispositions du premier paragraphe du Titre 35, § 112 du Code des Etats-Unis, je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations, dont j'ai pu disposer entre la date de dépôt de la demande antérieure et la date de dépôt de la demande nationale ou internationale PCT de la présente demande:

(Application No.) (Filing Date)  
(N° de demande) (Date de dépôt)

(Application No.) (Filing Date)  
(N° de demande) (Date de dépôt)

Je déclare par le présent acte que toute déclaration ci-incluse est, à ma connaissance, véridique et que toute déclaration formulée à partir de renseignements ou de suppositions est tenue pour véridique; et de plus, que toutes ces déclarations ont été formulées en sachant que toute fausse déclaration volontaire ou son équivalent est passible d'une amende ou d'une incarcération, ou des deux, en vertu de la Section 1001 du Titre 18 du Code des Etats-Unis, et que de telles déclarations volontairement fausses risquent de compromettre la validité de la demande de brevet ou du brevet délivré à partir de celle-ci.

I hereby claim foreign priority under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT International application which designated at least one country other than the United States, listed below, and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or PCT International application having a filing date before that of the application on which priority is claimed.

Priority Not Claimed  
Droit de priorité non revendiqué

June 10, 1999  
(Day/Month/Year Filed)  
(Jour/Mois/Année de dépôt)

(Day/Month/Year Filed)  
(Jour/Mois/Année de dépôt)

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below.

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application.

(Status)(patented, pending, abandoned)  
(Statut)(breveté, en cours d'examen, abandonné)

(Status)(patented, pending, abandoned)  
(Statut)(breveté, en cours d'examen, abandonné)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number

### French Language Declaration

**POUVOIRS:** En tant que l'inventeur cité, je désigne par la présente l'(les) avocat(s) et/ou agent(s) suivant(s) pour qu'ils poursuive(nt) la procédure de cette demande de brevet et traite(nt) toute affaire s'y rapportant avec l'Office des brevets et des marques: (mentionner le nom et le numéro d'enregistrement).

**POWER OF ATTORNEY:** As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith: (list name and registration number)

John H. Mion, Reg. No. 18,879; Donald B. Zinn, Reg. No. 19,046; Thomas J. Macpeak, Reg. No. 19,222; Robert J. Sosa, Jr., Reg. No. 21,092; Darryl Mazic, Reg. No. 23,063; Robert V. Sloan, Reg. No. 22,775; Peter D. Olasz, Reg. No. 24,313; J. Frank Osha, Reg. No. 24,625; Waddell A. Biggart, Reg. No. 24,861; Robert G. McMorrow, Reg. No. 19,093; Louis Chubinsky, Reg. No. 24,835; Neil B. Siegel, Reg. No. 25,200; David J. Cushing, Reg. No. 28,703; John R. Inge, Reg. No. 26,916; Joseph J. Ruch, Jr., Reg. No. 26,577; Sheldon I. Landsman, Reg. No. 25,430; Richard C. Turner, Reg. No. 29,710; Howard L. Bernstein, Reg. No. 25,665; Alan J. Kasper, Reg. No. 25,426; Kenneth J. Burchfiel, Reg. No. 31,333; Gordon K. Reg. No. 30,764; Susan J. Mack, Reg. No. 30,951; Frank L. Bernstein, Reg. No. 31,484; Mark Boland, Reg. No. 32,197; William H. Mansir, Reg. No. 32,156; Scott M. Daniels, Reg. No. 32,562; Brian W. Hanson, Reg. No. 32,778; Abraham J. Roemer, Reg. No. 33,276; Bruce E. Kramer, Reg. No. 33,725; Paul F. Neale, Reg. No. 33,102; and Brett S. Sylvester, Reg. No. 32,765.


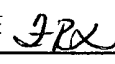
Adresser toute correspondance à:

Send Correspondence to:

SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC  
2100 Pennsylvania Avenue, N.W., Suite 800  
Washington, D.C. 20037-3202

Adresser tout appel téléphonique à:  
(nom et numéro de téléphone)

Direct Telephone Calls to:  
(name and telephone number)

Nom complet de l'unique ou premier inventeur <u>Ludovic PETIT</u>	Full name of sole or first inventor
Signature de l'inventeur  Date <u>12.11.2001</u>	Inventor's signature Date
Domicile <u>4, rue du buc</u> <u>27110 VITOT / FRANCE</u> 	Residence
Nationalité <u>française</u>	Citizenship
Adresse postale <u>Same as domicile</u>	Post Office Address
Nom complet du second co-inventeur, le cas échéant	Full name of second joint inventor, if any
Signature du second inventeur Date	Second inventor's signature Date
Domicile	Residence
Nationalité	Citizenship
Adresse postale	Post Office Address

(Fournir les mêmes renseignements et la signature de tout co-inventeur supplémentaire.)

(Supply similar information and signature for third and subsequent joint inventors.)